REMARKS

The specification and drawings have been amended to provide more correlated support to claim 4. New claims have been added to further define the acoustic vector probes. No new matter is added in that all matter has been disclosed in the original application or incorporated by reference to parent application 10/396,541 now pending. A power of attorney is also enclosed.

In the Office Action of June 28, 2004 claims 1, 2, and 5-9 were rejected as being anticipated under both §102(a) and 102(e) by the Guigne reference. This rejection is respectfully traversed.

Applicant respectfully traverses the Section 102(a) rejection. The Guigne patent was issued i.e. patented on May 18, 2004. Applicant's filing date for the present application is September 9, 2003. As stated in the M.P.E.P. § 706.02(a) p. 700-24, :"For 35 U.S.C. 102(a) to apply the reference must have a publication date earlier in time than the effective filing date of the application, ..." It is plainly clear the Guigne's invention was patented i.e. published in this country a full eight months after the constructive reduction to practice i.e. the filing date of the present invention and that section 102(a) should not apply.

Applicant does not traverse the applicable dates under §102(e) but does traverse the allegation that the Guigne reference anticipates applicant's invention. Guigne discloses a

very different apparatus and method of echo location. Guigne uses an array of sonic transducers i.e. transmitters. The plurality of transmitters are timed to give a sequential pulses of high frequency which produces a narrow carrier beam which narrows the beam of the sonic frequencies. While the theory stated on col. 4, lines 15-17 are suspect and not believed to be workable, there are more basic differences between Guigne and applicant's present invention. Guigne states that the amplitude of each pulse is detected by a single detector associated with the one transducer as set forth on col. 5, lines 2-5. Only the amplitude (i.e. pressure) of each sound echo is detected and geographically shown to form visual lines to represent objects lying on the seabed. The disadvantage is that Guigne must use a shaping and switching circuit 114 that passes the timed pulses 30 every four millisecond.

There is no disclosure of a using an array of acoustic vector probes where each probes provides not only the sound pressure, (i.e. amplitude) but the sound intensity vector, i.e. amplitude and direction—i.e. sound power flow per unit area with a direction. The sound acoustic vector probe is fully described in parent application 10/396,541 and is incorporated by reference. The basic structure of each probe is added to claim 1. The array of vector probes all pick up the echo of the same sound pulse and this single sound pulse is then placed into the multi-channel system to provide a three dimensional output for the single sound pulse. This limitation of using a array of

acoustic vector probes is missing in Guigne. The advantage of obtaining a three dimensional display from a single sound pulse is also not possible with the Guigne device.

It is axiomatic that, in order to "anticipate" a claim, "all the elements in the claim (or possibly their equivalents…) must have been disclosed in a single prior art reference or device." *Radio Steel & Mfg. Co. v. MTD Products, Inc.*, 731 F.2d 840, 845, 221 U.S.P.Q. 657, 661 (Fed. Cir. 1984). Moreover, "it is incumbent upon the Examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference." *Ex parte Levy*, 17 U.S.P.Q. 2d 1461, 1462 (BPAI 1990). It is respectfully submitted that cited reference does not disclose or suggest all the elements of claim 1 as filed or amended nor has the Examiner identified wherein in this cited patent allegedly teaches "each and every facet" of the invention as claimed.

As further set forth in M.P.E.P. § 2131 (pgs. 2100-73):

> "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegall Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q. 2d 1051, 1053 (Fed. Cir. 1987)... "The identical invention must be shown in as complete detail as is contained in the … claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not

required. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q. 2d 1566 (Fed. Cir. 1990).

As further pointed out in M.P.E.P. § 706.02 (pg. 700-21).

> "The distinction between rejections based on 35 U.S.C. 102 and those based on 35 U.S.C. 103 should be kept in mind. Under the former, the claim is anticipated by the reference. No question of obviousness is present. In other words, for anticipation under 35 U.S.C. 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. Whereas, in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims. The modification must be one, which would have been obvious to one of ordinary skill in the art at the time the invention was made."

In the Office Action, the claims 1-2 and 5-9 have also been rejected as being anticipated under § 102(b) by the Wilk reference. This rejection is also respectfully rejected for the substantially the same reasons as discussed before. The Wilk reference also does not disclose any use or suggest any use of acoustic vector probes. Wilk in similar fashion to Guigne discloses in Figure 10 a plurality of transducers 106 which each emit a pulse sound along with a plurality of acousto-electric sensors 28. Only the intensity (i.e. pressure) of the echo is detected by the acousto-electric transducers. There is no use or suggestion of use of an array of acoustic vector probes with

each probe detecting the vector direction of sound flow from a single pulse of sound.

Claims 3 and 4 are rejected under §103 as being obvious in view of the cited Guigne or Wilk references with two unenclosed references that were not cited on USPTO form 892. As such no meaningful response can be made to this incomplete rejection with unknown references with incomplete citations. It is requested that the full citation of the "Scahefer et al '189" reference and the "Cannelli et al '217" reference be made. A full patent number for each is requested and it is requested that these two references be cited in the PTO-892 form.

However it is believed that the addition of these two references cited to teach the use of and the advantages of electric sparks as pulsed sound generators do not alleviate the deficiencies of the Wilk and Guigne references. Namely none of the four references disclose the use of acoustic vector probes. As such it is believed that claims 3 and 4 are allowable over the cited references.

In the Office Action claims 4 has been rejected under §112 as being not supported by the specification. It is requested that the specification as amended with specific reference to the drawing which shows a frustro conical shape reflector and which supports the use of a reflector on page 8, lines 14-15 provide sufficient enabling support for claim 4. Other shaped reflectors such as parabolic are well known to reflect and enhance sound emitters and the disclosure is

believed sufficient for one ordinarily skilled in the art to build and use a sonic emitter with the aforementioned acoustic reflector. As such this rejection is requested to be withdrawn.

As such, it is now believed that the case is in condition for allowance and early notification of such allowance is earnestly solicited.

If it is determined that any fees are due with this submission, the Commissioner is hereby authorized and respectfully requested to charge such fee to our deposit account No. 50-0852.

Respectfully submitted,

REISING, ETHINGTON,
BARNES, KISSELLE P.C.

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Steven L. Permut
Reg. No. 28,388
P.O. Box 4390
Troy, Michigan 48099
(248) 689-3500
Customer Number 23399